UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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October 14, 2008

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Subject: US 74 Relocation, from US 129 in Robbinsville to NC 28 in Stecoah, Graham County
Draft Supplemental Final EIS; TIP No.: A-9 B & C
CEQ No.: 20080326; FHW-E40165-NC

Dear Dr. Thorpe:

The U.S. Environmental Protection Agency (EPA) Region 4 has reviewed the subject document and is commenting in accordance with Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA). The North Carolina Department of Transportation (NCDOT) and the Federal Highway Administration (FHWA) are proposing to relocate US 74 from US 129 in Robbinsville to NC 28 in Stecoah in Graham County for an approximate distance of 10 miles. The proposed multi-lane, median divided facility will potentially involve the construction of a 2,870-foot tunnel beneath the Appalachian Trail at Stecoah Gap. This project has been in the NEPA/Section 404 Merger process. According to EPA's records, the only Merger 01 process concurrence point was CP 2A, Bridging and Alignment Review that the team concurred upon on August 14, 2007. Purpose and need for the proposed project as well as detailed study alternatives were apparently addressed in year 2000 prior to the implementation of the NEPA/Section 404 Merger 01 process.

The NCDOT and FHWA issued a FEIS for the entire A-9 project in 1984. The project was segmented by NCDOT and FHWA into four (4) parts in 1998. Construction of the eastern widening of the 'D' Section was recently completed between Stecoah and Almond. The 'A' Section of the project between Robbinsville and Andrews is not included in this Draft Supplemental FEIS. The 'A' Section would be entirely on new location that also would potentially include tunneling through the Snowbird Mountains at Tatham Gap. The 'A' Section is mostly located within the Nantahala National Forest and Game Lands and is proposed to be studied under another NEPA document. The project study area for the B and C Sections is also very rural and includes impacts to the

Nantahala National Forest at Stecoah Gap. The proposed tunnel at Stecoah Gap would be located underneath the Appalachian Trial. EPA's specific comments are attached to this letter (See Attachment A).

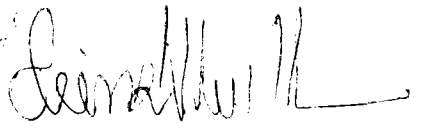
In summary, EPA believes that the impacts to high quality streams and wetlands, air quality, and the human environmental are of such a magnitude that further avoidance and minimization efforts to the recommended Alternative YX would not substantially reduce the magnitude or severity of the impacts. EPA also considered the potential for viable stream and wetland compensatory mitigation within the project study area. The mitigation plans identified in the SDFEIS are not adequate to compensate for the impacts to jurisdictional waters of the U.S. EPA has conferred with other resource and permitting agencies and the potential to provide compensatory mitigation within this watershed does not appear to be reasonable or feasible. EPA's review of the SDFEIS has identified major adverse environmental impacts to public health, welfare and the environmental quality of the project study area. EPA intends to work with the lead transportation agencies to reduce these impacts. EPA believes that there are other alternatives that require further examination by NCDOT and FHWA, including Transportation Systems Management (TSM). EPA does not believe that the SDFEIS adequately assesses the significant environmental impacts of the action, including the 'missing' "A" Segment.

EPA recommends that the lead transportation agencies work with local community officials to determine a sustainable economic development alternative that comprehensively addresses mobility, system linkage and safety. EPA believes that the exclusion of the direct human and natural resource environmental impacts from the "A" segment of the K Corridor is not adequate for the purposes of compliance with NEPA. EPA has rated Alternatives X and YX as 'EO-2', Environmentally Objections with additional information being requested for the final document. Specifically, additional information should be provided on the construction and waste generation impacts and the primary purpose of the project for economic development as well as the project and environmental issues raised in the attached detailed comments.

EPA recommends that the A-9 project, including Segments A, B and C, be placed in the NEPA/Section 404 Merger 01 Process at Concurrence Point 1 to help develop a substantiated purpose and need and to better define the project study area. This effort should focus not only on the existing US 74 corridor, but other roadway connections such as US 129, NC 143, and NC 28. Without an improved roadway connection to US 74 in Andrews, N.C., the current proposal does not meet the original intent of the ADHS requirements. The project should be comprehensively redefined in the context of improving the mobility, system linkage and safety of all the project study area roadways and providing sustainable economic development in the region. Additional design alternatives on these existing roadways should consider potential multi-lane facilities at specific locations and that incorporate context sensitive design solutions to avoid and minimize human and natural resource impacts.

Should you have any questions about EPA's comments, please contact Mr. Christopher Militscher on my staff at (919) 856-4206 or by e-mail at: militscher.chris@epa.gov.

Sincerely,



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ATTACHMENT A
US 74 Relocation
Graham County
TIP No.: A-9 B&C

Specific Comments on Supplemental Draft FEIS

Purpose and Need

The purpose and need for the proposed project includes a 'needed segment' of the Appalachian Development Highway System (ADHS), complete a missing link in the ADHS Corridor "K", improve access of Graham County to other areas of the State, provide a solution to the geographical isolation caused by rugged terrain and substandard roads, and stimulate the local economy by providing an improved transportation system (Page S-1 of the SDFEIS). These purposes are very similar to the January 5, 2000, Purpose and Need Summary (Appendix A.2, Pages 1 to 4) that included an efficient highway system is lacking in the Appalachian Region and safety. Other purposes outlined in the year 2000 include improving system linkage, improve economic and social development, improvements to roadway capacity and safety, and consistency with transportation plans.

The ADHS was initiated through the 1964 President's Appalachian Regional Commission and this commission reported to the U.S. Congress that economic growth in Appalachia would not be possible until the Region's isolation had been overcome. It is important for NCDOT and FHWA to consider that NEPA, the Clean Water Act, the Clean Air Act and other environmental laws had not been passed at the time that the A-9 project was given its primary purpose. It is also important to note that the selection of the ADHS "K" Corridor was made prior to the U.S. Congress passing NEPA, the Environmental Quality Improvement Act of 1970, as amended. Since that time, a great deal of new information is available concerning methods to improve and sustain economic development in rural and remote regional areas without solely new or widened roadways. New technology in the past 40 years has also vastly reduced the effects of 'geographical isolation' of many rural mountain communities. There has also been a greater appreciation and understanding of 'eco-tourism' and the local and regional business interests that have developed to support these outdoor activities, such as camping, hiking, fishing, hunting, white-water rafting, canoeing, etc.

Approximately 10 years ago, NCDOT and FHWA agreed that a re-evaluation of the 1984 FEIS was appropriate for the B and C Sections of the proposed A-9 project. In the letter dated January 15, 1998 (Appendix A.1), NCDOT provides a rationale for the proposed re-evaluation. In 2000, NCDOT, FHWA and the U.S. Forest Service agreed that the 'A' Section should also be considered under a separate evaluation. Other agencies at the time, including EPA, agreed with this general approach due to adverse and severe environmental impacts through the wilderness area of the Snowbird Mountains and Nantahala Forest and Game Lands.

EPA has substantial environmental concerns with the stated need and 'purposes' of the proposed project. The proposed relocation of US 74 has been in the planning stages since the mid-1960's. The primary reason for the initiation for this project and other Appalachian Mountain projects has been for economic development. However, a great deal of new information is now available that was not available in the mid-1960's. As FHWA has reported in numerous studies, new roadways by themselves do not provide 'sustainable' economic development without other infrastructure and supporting socio-economic activities. Roadway funding will potentially provide short-term economic gains for some regional and local contractors and a few businesses. Once the new roadway is complete, however, the only potential economic benefit will be a slightly shorter, straighter and wider route from Robbinsville to Asheville. The SDFEIS does not fully explore or analyze how building these two segments of new location expressway between Robbinsville and Stecoah will improve economic and social development in the project study area for the future. The project's primary purpose dating back to the mid-1960's dealt with economic stimulus to rural mountain areas. There was no concept at that time of 'sustainable economic development' or 'context sensitive design solutions'. EPA does not concur with the justification that 'geographical isolation' within Graham County will be resolved by providing essentially two additional travel lanes, wider paved shoulders, a 30-foot median and other standard roadway improvements. By the nature of the Appalachian Mountains in western North Carolina, most all of the small towns, cities and communities are 'geographically isolated' by mountains and rivers. The SDFEIS does not provide any details how there will be 'direct economic benefits by providing a better highway connection' between Robbinsvile and Asheville (Section 1.7 of the SDFEIS) or how a new wider roadway will sustain economic development in the region.

Section 1.1.2 of the SDFEIS discusses the two-tiered part of the purpose and need statement for the 'A' Section and the B&C Sections of the project. Referring to the January 5, 2000, Purpose and Need Summary, it is stated that the 'A' Section is not funded. EPA is uncertain how the overall purpose of US 74 system linkage can be significantly improved without the 'A' Section of the proposed project. From several comments in the SDFEIS, there is a certain public and resource agency perspective that the B&C sections 'dead-end' at US 129 south of Robbinsville and do not provide a true relocation of US 74. US 129 is a two- lane roadway with some extreme sharp curves as it approaches existing US 19/US 74 at the Graham-Cherokee County line. Without significant improvements to US 129 between Robbinsville south towards existing US 19/US 74, EPA is uncertain how the relocated US 74 B&C Sections will improve regional travel and system linkage. There is a real concern that a newly constructed B&C Section will create faster driving speeds for a relatively short distance between Stecoah and Robbinsville. Considering snow and ice conditions in the mountains, faster driving speeds can lead to more severe accidents. While NC 28 east of Stecoah has been widened to multiple lanes, US 129 both north and south of Robbinsville have slower speed limits due to mountainous topography and city ('town') speed limits.

Roadway capacity issues were also included in the revised purpose and need in January of 2000. The design year 2030 (annual) average daily traffic (AADT) for the proposed new location expressway has a range of traffic from 10,400 to 11,200 vehicles

per day (vpd). Using the maximum range of several of the existing roadways, such as US 129, NC 143 and NC 28, the base year 2005 AADT is 1,200 to 9,200 vpd. Comparing these traffic projections and estimates to the population trends within Graham County (Year 2000: 7,993, Year 2010: 8,679, Year 2030: 9,614), EPA is concerned that design year 2030 traffic estimates have been over estimated. Based upon these general projections, the rate of traffic growth substantially exceeds the local population growth rate. The original purpose and need for the project did not address a capacity problem on the Graham County's roadways. From Exhibit 1.9.1e, some of the highest 2005 year AADT within the project study area are located at the NC 143 and US 129 intersection. A peak AADT of 9,200 vpd substantially drops off to 4,200 vpd at the US 129/SR 1290 intersection south of Robbinsville. AADT traffic numbers for 2005 along existing US 19/US 74/US 129 and NC 143 indicate 'peak' ranges between 2,800 and 6,200 vpd. Most sections along existing US 19/US 74 appear to be around 4,800 vpd. For a two-lane facility, this would not indicate that the existing roadway is currently over capacity. Current traffic estimates along NC 143 indicate there may be a minor capacity problem for a short distance between SR 1214 and SR 1155 at peak hours (6,200 to 7,000 vpd, not including the NC 143/US 129 intersection). The 2005 LOS is "B" or better at nearly every signalized and un-signalized intersection throughout the project study area (Table 1.9.2 of the SDFEIS). Only the intersection at NC 143 and US 129 has a 2005 LOS of "C" in both the "A.M. and P.M. peak hours". In the 2030 design year the LOS is acceptable ("C" or better) at all of the major roadway segments (Table 2.8.1 of the SDFEIS). Only at NC 143 is the LOS "D" in the 2030 design year under the 'No-build Alternative'. Minor roadway improvements including turning lanes at key intersections could more than adequately address this future projected capacity problem. These future year LOS estimates are also based upon 'worst case' traffic conditions, including A.M. and P.M. peak hours.

During peak tourist season for canoeing, fishing, and other outdoor recreational activities, EPA might expect that travel capacity and demand could be a future potential issue along specific portions of the project study area's roadways. Robbinsville and Stecoah do not appear to be significant Regional commercial/industrial destinations. Along existing US 19/US 74 and the Nantahala River in Swain County, there are numerous locations where the boating, canoeing, rafting and other recreational activities take place. Providing improved parking and boating access, turning lanes, and passing lanes at specific locations could substantially address these future capacity and safety concerns and also potentially promote 'eco-tourism' activities.

Section 1.10 of the SDFEIS addresses safety and accident analyses performed in the project study area. The analysis was conducted in this fashion (i.e., Tiered purpose and need) to illustrate the safety issues associated with the existing US 74 alignment through the Nantahala Gorge (Page 1-24 of the SDFEIS). Tables of Accident Summary (i.e., October 1, 2003 to September 30, 2006) and Crash Rate Comparison are provided. As presented in the SDFEIS, the majority of the segments studied are below the State-wide accident rates for both North Carolina and U.S. rural routes. Actually, only one segment (i.e., Segment 3, 11.58 miles along US 19/US 74 in Swain County) is above the N.C. and U.S. rural route accident rates. Segment 3 is located in Nantahala Gorge and it

is not unreasonable that portions of existing US 19/US 74 have a higher overall accident rate. EPA has found that at specific times of the year, vacationers and other tourists have little room to maneuver or park their campers, vehicles with trailers, etc. along US 19/US 74. This is also supported by the Table 1.10.2's Fatal/Non-fatal Crash Rates for Segment 3. There were no fatalities in Segment 3 but Non-fatal crash rates were above the State-wide crash rates. For the other 46.7 miles of roadways analyzed (i.e., Segments 1, 2, 4, 5, 6 and 7), the percent of total of accidents is less than the N.C. and U.S. rural route percentages. Table 1.10.1 also provides an accident severity index. Part of the explanation is provided in the discussion concerning motorcycles, whereby motorcycles were involved in nearly 10% of the total accidents compared to a State-wide average of 1.4%. Considering the 'curvy' roadways and steep terrain and that numerous motorcycle enthusiasts use some of these local roadways as a 'challenge course', the index of the severity of accidents above the State-wide average for most segments is not a surprising outcome. Providing a multi-lane facility between Stecoah and Robbinsville will not potentially alter the desire by motorcyclists to use other mountain roadways as 'challenge courses'.

The safety and accident studies highlight a concern that EPA has regarding the project study area's roadways. For example, NC 28 has some of the highest accident severity and fatal crash rates in N.C according to the SDFEIS studies. NC 28 north of Almond through Nantahala Gorge and south towards Franklin through Swain County may be one of the most 'dangerous' roads in western N.C. There appears to be a distinct lack of roadway caution signage for 'hairpin' turns, steep slopes, blind curves and driveways, and very narrow shoulders. Guardrails do not appear to consistently extend to the full curvature of the roadway slope-face. Many of the accidents referenced in these SDFEIS studies could be potentially addressed by improvements to roadway signage and guardrails. The SDFEIS does not address how these other roadways (more the than 40 miles) will have improved safety conditions by building a 10-mile new location expressway. Based upon the 'night' and 'wet' crash rate comparisons, only Segment 3 showed a night-time crash problem above State-wide averages (All Rural US routes in NC only; Segment 3's 53.24 rating was substantially below the 60.26 rating for All Rural NC routes). For 'wet' crash data, Segments 3, 6 and 7 were above the State-wide ratings. For the safety analyses conducted in the SDFEIS the project study area includes all of the major roadway segments around Graham, Swain and Cherokee counties. However, for the alternatives considered, the project study area is essentially the revised Corridor 'K' from the ADHS map and as shown on the Project Study Area map on Exhibit 1.1.2. For comparative purposes under NEPA, the SDFEIS should have considered all reasonable and feasible alternatives in Graham County, not solely a new location alignment between Stecoah and Robbinsville. Similar to the safety analysis conducted that included roadways segments outside of Graham County (e.g., Segment 1 in Cherokee County, Segments 3 and 4 in Swain County), the project study area should have included a full traffic analysis and evaluation of all the region's roadways.

EPA does not fully agree with the safety and accident conclusions presented on Page 1-42 of the SDFEIS. One important component of the studies that was not provided in the information was the number and severity of accidents involving wildlife.

Substantial portions of the project study area are located in the Nantahala Game Lands. Potential conflicts with large mammals such as deer and bear would be expected to increase with a widened, higher-speed multi-lane facility. 'Run-off-road' type crashes accounted for 52.8% of the types of accidents. The SDFEIS does not provide the breakdown for the causes for these types of crashes, such as attempting to avoid large mammals. Table 3.7.6 of the SDFEIS identifies Black bear, White-tailed deer, Wild boar and Wild turkey game harvest numbers for selected years for Graham County. Accidents and collisions with large game animals will very likely increase in the project study area with a significantly widened, median divided facility. Furthermore, widened grassed shoulders tend to attract deer for foraging and other large mammals such as bears for seeking carrion closer to the new roadway. While North Carolina studies indicate that four-lane, partial control facilities have lower crash rates and severity indexes than other non-divided facilities, this new 10-mile, multi-lane segment may have no measurable benefit to other area roadways and the causes for the accidents at other specific locations. From EPA's direct experience with some of the existing roadways in the project study area, most accidents would be expected to be confined to specific areas involving very restricted line of sight from horizontal and vertical curves and a lack of turn lanes at 'blind' intersections. Many of the longer, flatter sections NC 143, for example, would not be expected to have substantial safety deficiencies. Higher speeds along the new 30-foot median divided facility may actually increase the severity of accidents and fatalities involving large mammals collisions. Higher speeds resulting from widened, multi-lane facilities also potentially increase the number and severity of traffic accidents associated with rain, snow and ice. NCDOT and FHWA should further assess the potential for accidents involving wildlife and what other changes to existing roadways might be required even if a new 10-mile facility were to be constructed.

As discussed in the SDFEIS, the percentage of the population over the age of 65 in Graham County is 17.9%, which is substantially higher than the State-wide average of 12.0%. Many retirees have settled into the area (Page 3-12 of the SDFEIS). The median age in Graham County is 41.5 years which is also substantially higher than the State-wide median of 35.3 years. This trend is expected to continue in the future. EPA does not believe that the project's severe environmental impacts are justified in the light of present day understanding of the relevance and validity of 'sustainable economic development' by means of 10-miles of roadway construction in an area where the primary attraction is recreational activities and retirement. As stated on Page 1-9 of the SDFEIS, the improved facility 'would offer better access to jobs, medical facilities and educational facilities outside of Graham County, which currently relies on two-lane substandard roads'. EPA does not understand how 10 miles of a new location roadway will improve economic development within Graham County when the point of destination for these potential services is located 3 counties away in Ashville, Buncombe County.

The SDFEIS addresses geographic isolation from a single incident that occurred in March of 1994 after two days of heavy rains. The major roads serving Graham County (i.e., US 129, NC 143) were closed from slides and washouts. To provide access several temporary detours were put in place. Due to the topography of the area, the necessary location of these detours caused substantial safety concerns. EPA cannot ascertain why a

four-lane segment of road would not also be closed due to slides and washouts from a similar severe event. The proposed 2,870-foot tunnel at Stecoah Gap would also be potentially very vulnerable to flooding and slides. The SDFEIS does not discuss other nearby western N.C. counties that were similarly impacted from the 1994 storm event. The SDFEIS does not discuss local emergency contingency planning or other modes of transportation in an emergency situation should roadways be closed due to a natural disaster (e.g., Helicopter transport).

EPA acknowledges the comments in the SDFEIS regarding transportation plans on Page 1-21. Aside from bridge replacements, there is only one planned project in Graham County (i.e., R-2822, Upgrade NC 143 from West Buffalo Creek to Kilmer Road). The proposed A-9 project is believed to complete the missing link in the Appalachian Highway Corridor K, which is part of the ADHS. However, the SDFEIS only addresses the B and C Sections of the project and does not complete the full link of Corridor K between Stecoah and Andrews, N.C. As reported in a local newspaper in April of 1999, some residents fear that the A-9 B, C, and D sections may become a "road to nowhere" (Page 4-1) without the "A" Section.

In EPA's letter to the U.S. Army Corps of Engineers (ACE) NCDOT dated April 28, 2000 (Appendix A.2), EPA requested that NCDOT consider full control of access for the new alignment in addition to partial control of access. The SDFEIS only considers partial control of access. Furthermore, the April 28th letter also requests that the environmental evaluations should consider the development stimulated by this transportation improvement on natural resources of this mountainous area. The SDFEIS does not specifically address how the proposed build alternatives (e.g., Alternatives X and YX) would provide a sustainable economic stimulus to the project study area or within Graham County. EPA also has concerns for the accuracy of some of the Exhibits in the SDFEIS, including Exhibit 1.5.2, Preliminary Relocation Segments. Exhibit 1.5.2 identifies in 'green' National Forest Service lands. A 2001 North Carolina Atlas and Gazatteer depict the Nantahala National Forest and Game Lands in areas crossed by the Orange/Blue/Purple/Red/Brown/Dark blue/Yellow preliminary alternatives for the 'A' Section. There are other land use/landownership inaccuracies in this exhibit as well.

Alternatives Considered

On Page 2-1 of the SDFEIS, the No-build Alternative is stated not to be compatible with the transportation goals of N.C., which are: 1) to improve the safety and efficiency of the region's highway system; and 2) to almost complete a missing link of Corridor K of the ADHS. Without the 'A' Section from US 129 at Robbinsville to Andrews, N.C., this project 'dead-ends' at a two-lane facility. With no funding or an immediate schedule for the 'A' Section, EPA does not agree that the B and C Sections of the project demonstrate logical termini, independent utility and alternative development (i.e., Page 2-6 of the SDFEIS). EPA notes the inconsistency presented in the SDFEIS concerning the completion of the missing link in Corridor K and the almost completion. The distance from Robbinsville to Stecoah 'as the crow flies' is approximately 7.2 miles. The direct distance between Robbinsville and Andrews is 9.0 miles. EPA does not

understand the statement that the proposed Band C Sections almost completes a missing link of Corridor K as the 'A' Section represents one of the longest segments of the A-9 project. The location of the western termini at NC 129 restricts the alternatives between Robbinsville and Andrews, N.C. by a 'major' crossing of the Snowbird Mountains, Nantahala Game Lands and Cherokee Indian Lands. As stated on Page 2-7, the western terminus location for Alternatives E and F of the 'A' Section is north of the US 129 terminus locations for the 1984 FEIS Recommended Alternative. Without providing supporting information and data, the SDFEIS states that a small segment of Alternatives E and F were not carried forward for detailed study for the A-9 B and C Sections. This segment 'will be included in future studies conducted for Alternatives E and F as part of the re-evaluation for Section A'. EPA recommends that the 'reasonably foreseeable transportation improvements' to US 129 between Robbinsville and Andrews should have been included in this SDFEIS. Based upon EPA's general estimate of natural resource impacts and costs associated with the new location alternatives for the 'A' Section through the Snowbird Mountains, it is not 'reasonable and foreseeable' that this segment will be planned and constructed within the 2030 design year planning horizon. Regarding the improvements to safety and efficiency of the region's highway system, the proposed alternatives for the B/C segments do not address the region's main roadway facilities but only a small east-west corridor.

NCDOT and FHWA consider two primary new location alternatives for the B and C Sections, including X and Y. Some modest crossover components to each increased the alternatives for detailed study to 4: Alternatives X, Y, YX and XY. Alternatives Y and XY are no longer considered feasible by NCDOT and FHWA due to geological instability at Stecoah Gap for a 1,919-foot tunnel. NCDOT made a footnote to Table 2 at the August 14, 2007, CP 2A concurrence meeting that tunnel construction for Alternative Y is not considered reasonable or feasible due to geological instability. The SDFEIS's Table S.1 further footnotes that both the Y and XY Alternatives are not reasonable or feasible. The environmental impact studies continue to show Alternatives Y and XY even though there were determined not to be feasible from a tunnel constructability standpoint. EPA does not fully understand the rationale to continue to show detailed study alternatives for comparison purposes when NCDOT and FHWA previously determined that they were not reasonable or feasible (40 CFR Section 1502.14(a)). The NEPA/Section 404 Merger 01 process allows NCDOT and FHWA to re-visit concurrence points when there is new information. EPA would have concurred not to carry forward alternatives for detailed study in the SDFEIS that are not reasonable or feasible. Some decision-makers and the public may not observe the small footnote in Table S.1 or the brief discussion in the SDFEIS.

There is very little difference in either alignment or the environmental impacts between the remaining Alternatives X and YX. NCDOT and FHWA have stated their preference for Alternative YX in the SDFEIS.

The proposed roadway consists of two separate two-lanes sections 24 feet in width, each comprised of two 12-foot lanes, 8-foot outside shoulders with 4-foot paved, and 6-foot inside shoulders with 2-foot paved. The proposed roadway is also divided

with a 30-foot wide median, except at the tunnel approaches where the median widens to a 56-foot paved section. In rock cut areas, the shoulders would be widened to 12 feet to accommodate a concrete barrier for protection against rock slides and the ditch line moved to 15 feet to provide landing and accumulation areas for slides. A minimum of 200 feet of right of way is proposed. Where there are extensive cut and fill sections, the right of way is expected to increase beyond the 200-foot 'minimum'. Because of the limited range of feasible alternatives, NCDOT and FHWA should have considered different typical sections for the multi-lane expressway facility, including a reduced median, double-faced guardrail facility. There are numerous multi-lane roadways in western N.C. that are converting grass medians to paved interior lanes with 'jersey barrier' or double-faced guardrail narrow paved medians. Major sections of US 74 in Haywood, Jackson and other N.C. counties are currently being converted by adding interior lanes and either jersey barriers or double-faced guardrails where there were once grassed medians. EPA does not understand the rationale for a 'typical section' 30-foot grass median in an area that includes sensitive aquatic resources and significant geological stability issues. In the NCDOT's *2005 Facility Type and Control of Access Definitions*, adopted by the N.C. Board of Transportation on September 2, 2004, several examples of freeways and expressways are presented that included divided, reduced median facilities, including US 74 in Waynesville, US 74 west of Waynesville and US 221 Marion Bypass. EPA recommends that NCDOT and FHWA consider revised 'typical sections', as separate alternatives for the proposed project due in part to the limited range of reasonable or feasible alternatives considered in the SDFEIS.

NCDOT officials have previously acknowledged that the primary reason for 'wider' medians is for future capacity of interior traffic lanes. Division of opposing traffic and safety is also cited as a concern. A divided, reduced median facility as shown in the aforementioned NCDOT document is obviously an alternative design option when future capacity beyond the planning and traffic projection horizon is not reasonably foreseeable. As demonstrated by NCDOT on other sections of improved US 74, a guardrail-divided, reduced median facility can be constructed safety for expressway and freeway type facilities. A reduced median facility could substantially reduce environmental impacts to both the human and natural environment resources and project costs. Long-term operational costs for interior grassed median mowing are also significantly reduced. A reduced median facility may also allow for a more streamlined tunnel design that would require less waste generation and potentially reduce construction impacts.

The SDFEIS eliminates the Transportation Systems Management (TSM) Alternative because it is stated that these improvements would not be feasible within the project study area as they would not improve the level of service (LOS) along NC 143 and US 74. The project study area should be expanded to include all of the major roadways in Graham County and how TSM measures could improve regional travel, provide for safer two-lane facilities, and incorporate numerous '*NCDOT Moving Ahead*' initiatives. The 2005 LOS is "C or B" or better at nearly every signalized and un-signalized intersection throughout the project study area (Table 1.9.2 of the SDFEIS). Only the intersection at NC 143 and US 129 has a 2005 LOS of "C". In the 2030 design year the LOS is acceptable ("C" or better) at all of the major roadway segments (Table

2.8.1 of the SDFEIS). Only the LOS is "D" at NC 143 in the 2030 design year. These LOS estimates are also based upon 'worst case' traffic conditions, including A.M. and P.M. peak hours. The SDFEIS does not examine any TSM options that could improve this future year LOS "D" at that one intersection location. On Page 2-2 of the SDFEIS, NCDOT and FHWA conclude that TSM improvements would not be feasible within the project study area as they would not be able to improve the LOS along NC 143 and US 74. The LOS for both these roadways is neither poor in 2005 estimates nor failing in the 2030 future projections. The SDFEIS also states that the TSM Alternative would not satisfy the purpose and need of almost completing a segment of Corridor K of the ADHS. EPA does not concur with this assessment and that the TSM Alternative was not given full consideration.

On Page 2-5 of the SDFEIS, the 'Improve Existing Alternative' (i.e., ADHS Corridor "K") is discussed and includes widening existing US 74 through the Nantahala Gorge. The SDFEIS states that this alternative would not connect to the 'D' Section of the A-9 project, which has been completed; therefore, it is not consistent with current transportation plans. EPA believes that the re-evaluation of the 'A' Section should have been considered as part of the SDFEIS, including TSM alternatives not fully explored or detailed in previous NEPA documents. Page 2-5 of the SDFEIS includes a reference to the 1977 U.S. Department of Interior '*Study of Proposed Highway Alternatives in the Nantahala Gorge Area, North Carolina*'. EPA does not agree with the conclusion that, "....a connecting segment must be built somewhere because, with the previous and present four-lane construction of Corridor K, larger volumes of traffic would be forced into the Gorge, having a detrimental effect". This DOI study pre-dated the A-9 project 1981 DEIS by more than 4 years and the 1984 FEIS by more than 7 years. EPA is uncertain what traffic projections or alternatives were evaluated as part of this pre-NEPA document DOI study. However, EPA does, concur with DOI that a greatly widened 4-lane segment ('typical section') of US 74 through the Lower Nantahala Gorge "would destroy it". Nevertheless, the SDFEIS does not include what parameters were used by DOI to eliminate all of the potential transportation options for improving existing US 74 through Lower Nantahala Gorge. The concept that, "a connecting segment must be built somewhere", is considered by EPA to be pre-decisional under NEPA and was made prior to the NCDOT and FHWA issuance of the 1981 DEIS and 1984 FEIS. The proposed project in its segmented analysis, design and form represents potentially many missed opportunities for employing environmental stewardship goals with sound regional transportation planning.

As previously stated, the environmental impacts between Alternatives X and YX are so similar and severe that EPA cannot at this time identify an environmentally preferred alternative. Alterative X is approximately 0.57 miles longer than Alternative YX. There is little discernible difference in natural and human resource impacts between Alternatives X and YX. The X and Y Corridor alternatives are so similar (Exhibit 2.5.1) that there is only a slight difference of alignment near US 129 near the western terminus. In addition to the recommendation by EPA to study other typical section designs, EPA also requests that further consideration to the TSM Alternative and other '*NCDOT*

Moving Ahead' type projects be explored for all of the roadway segments studied under the safety analysis.

Wetland and Stream Impacts

Table S.1 in the SDFEIS appears substantially different from what was presented at the August 14, 2007, CP 2A concurrence meeting package (i.e., Table 2). Specifically, it appears that Table S.1 has been revised to include cut impacts as well as the fill impacts to streams. The inclusion of these impacts has significantly increased the total stream impacts for each alternative. Because NCDOT and FHWA have determined that Alternatives Y and XY are not 'geologically feasible', EPA's comments on wetland and stream impacts and other natural and human resources are specific to Alternatives X and YX.

Stream impacts using cut and fill slopes are estimated to be 19,160.5 linear feet for Alternative X and 18,804.1 linear feet for Alternative YX. Shading impacts, which would involve the removal of riparian vegetation and the shading by structures (i.e., Bridges), are 803.6 linear feet and 761.6 linear feet, respectively. The SDFEIS does not indicate the number of estimated stream crossings that were provided in Table 2 of the August 14, 2007, concurrence point meeting handout (~ 60 crossings). Also, the SDFEIS does not total the direct cut and fill impacts with the shading impacts as was done in 2007. The SDFEIS does not provide a rationale for the change in format of the impact summary table.

Stream impacts resulting from 'cut slopes' were previously not addressed in 2007. It is not clear from the SDFEIS where these 'cut impacts' are occurring and how much of the stream impacts are from fill and how much are from cut activities. Table 2 from 2007 only references fill impacts. EPA has made a general comparison to other Western N.C. new location projects. The 10-mile A-9 B/C project has almost double the BASELINE estimated stream impact per mile of roadway improvement (i.e., 2007 BASELINE for new location Western projects = 1,040 linear feet per mile versus > 1,900 linear feet per mile). The SDFEIS does not address the increase in shading impacts from the 2007 Table 2.

EPA understands that nearly all of the streams using USACE scoring rate very high quality (Page 3-109). Most of the major streams in the project study area are classified as Water Supply III (WS-III), with the additional designation as 'Trout Waters – Tr' for Tallulah Creek, Sweetwater Creek, and Stecoah Creek. According to NC Division of Water Quality (NCDWQ), Stecoah Creek and its tributaries are currently being re-classified from 'C Waters' to High Quality Waters (HQW). Table 3.7.3 of the SDFEIS does not identify this proposed change in classification by NCDWQ although the issue is partly addressed in Section 2.6.3, Page S-13, and Page 3-69 of the SDFEIS. According to EPA's notes from the CP 2A meeting, Beech Creek may also be 'Trout Waters' according to NC Wildlife Resources Commission (NCWRC). The SDFEIS does not fully address the importance or local significance of Trout Waters (e.g., "Only three stream segments are indicated as Trout Waters"; Page 3-80). The SDFEIS fails to

address the significance of the potential impact to these three major stream systems (i.e., Tallulah Creek, Sweetwater Creek and Stecoah Creek) and that thousands of linear feet of potential impact are located on these high quality 'Trout Waters' or their tributaries. The SDFEIS does cite that: "Most waters appear to be sufficient quality to support trout" (Page 3-81). According to Ms. Kathy Matthew, EPA Wetlands Section and Mr. Militscher of my staff, previous field visits by them to the project study area confirm that these stream systems are considered very high quality. Much of EPA's recommendation (and other resource agencies) for the longer bridge structure at Stecoah Creek and it is tributaries was based on the recognition of its 'very high quality' nature.

Jurisdictional wetlands impacts from Alternatives X and YX are 2.65 and 1.40 acres, respectively. For a '10-mile mountain project', these wetland impacts are significant. EPA identified the specific type of wetlands potentially being impacted and the quality of the wetland systems in Table 3.7.11. This table includes the NCDWQ that typically rates small wetland systems low because of the 'low floodplain' value accorded these mountain seep type wetlands. For example, Wetland #4-12 is a riverine headwater forest system that only scored a 'medium' NCDWQ score of 55. EPA believes this system to be high quality. Many of the small 'seep type' wetland systems are very important for small species of wildlife, including uncommon salamanders (e.g., Mountain dusky salamander, *Desmognathus orchrophaeus*). A new wetlands classification and scoring system to replace the NCDWQ scoring system has recently been developed in North Carolina (i.e., NCWAM). NCDOT staff and others recently attended training provided by NCDENR, USACE, EPA, and others on the NCWAM methodology. EPA is certain that many of the small wetland 'seep type' systems would be scored as higher quality as is shown in the SDFEIS. Exhibits 4.6.1a-d show 'Green areas' for wetlands being impacted. Considering the extensive bridging recommended for the 10-mile facility, the wetland impacts compared to other Western, NC BASELINE projects of impact per mile, this proposed new location project statistically has a substantially much higher impact than expected (i.e., 2007 BASELINE = 0.01 acre/mile vs. 0.14 acre/mile for Alternative YX or 0.26 acre/mile for Alternative X).

The NCDOT and FHWA should identify additional specific avoidance and minimization measures to reduce stream and wetland impacts and explain the reasons for the additional impacts resulting from 'cut impacts' that were not identified in August of 2007. Pages 4-50 and 4-51 describe one stream avoidance measure (i.e., An alignment shift) and the minimization of stream impacts for the 'X' Alternatives by bridging at Tallulah Creek (157-foot), Sweetwater Creek (210-foot) and Stecoah Creek (1,063-foot). Other recommended major drainage structures are detailed in Table 4.5.2. This includes another 85-foot bridge at Beech Creek and a 365-foot bridge at Stecoah Creek tributaries. Even with 5 new bridges totaling 1,880 feet for the 9.85-mile Alternative YX, direct cut and fill stream impacts still for this proposed project still exceed 18,800 linear feet. EPA estimates bridge costs alone for the proposed project at approximately $22,851,000 (i.e, From Table 4.5.2), not including other major drainage structures at other stream crossings. Additional avoidance and minimization measures could include the reduction of the right of way and construction footprint by reducing the median width and/or the width of paved shoulders.

The SDFEIS does not itemize the potential costs of the detailed alternatives for stream and wetland mitigation in Table S.1. The costs for compensatory stream and wetland mitigation are expected to be very significant (i.e., In tens of millions of dollars). These mitigations costs need to be identified in future project estimates. The SDFEIS cites a 2002 NCDOT report titled "*Mitigation Site Feasibility Study: Sites Adjacent to the Proposed US 74 Relocation*". According to this reference there may be 25.4 acres of wetlands credit and 19,755 linear feet of on-site stream restoration credit available in the project study area. EPA has not been provided a copy of this report and EPA is uncertain that these estimates of on-site compensatory mitigation are actually available. From EPA's field visits to the project study area, it appears very unlikely that 25.4 acres of acceptable wetlands mitigation is available on-site. The SDFEIS should have identified a comprehensive draft mitigation plan for the entire project, including preliminary findings from the 2002 Mitigation Feasibility Study. Potential compensatory mitigation costs for streams and wetlands also need to be identified in a project cost summary.

Tunnel and Construction Impact Considerations

The SDFEIS provides information on tunnel construction materials and waste. Based upon Table 4.11.1, Alternative YX will generate an estimated 2,909,000 cubic yards of rock, soil and other wastes. This estimate is based upon a 90% re-utilization of fill materials for areas requiring fill. It is 'assumed' that the 10% 'alluvium/colluvium' waste material was estimated based upon anticipated cut and fill requirements for the entire project. There is not supporting data or analysis that shows that this is a reasonable estimate of 'reusable' waste generation. Total waste material would be approximately 29,000,000 cubic yards.

EPA estimates that a tandem axle dump truck nominally holds 16 cubic yards of excavated materials (soil). Hauling off the '10% of waste materials' during construction of the tunnel will generate a minimum of 181,813 one-way truck trips. Round-trip truck trips generated on 'substandard roads' would be approximately 363,626 trips. While the SDFEIS evaluated the availability of area waste sites suitable for accepting project wastes, the analysis did not include the estimated time of construction or for hauling off these wastes. Table 4.11.2 indicates the location of viable and non-viable waste sites east and west of the proposed tunnel at Stecoah Gap. The site location letters, A to ZZ, do not match up with the east/west locations shown on Exhibits 4.11.1 and 4.11.2. According to Table 4.11.4, most of the waste material is proposed for 'western' sites, including 2,823,000 cubic yards of the total. The SDFEIS does not include a traffic and safety analysis of adding more than 360,000 truck trips to local roadways for waste material disposal alone. The SDFEIS did not include a traffic and safety analysis for all of the other construction equipment required for the tunnel, the bridges, concrete and asphalt paving, construction of rock slide walls, etc. These very severe and prolonged construction impacts are only generally described in the SDFEIS as follows: "*During construction, some nearby residents and businesses, not directly impacted by right-of-way acquisition, would be affected by heavy equipment use, noise dirt, dust and temporary disruptive traffic patterns*".

This discussion concerning the potential construction impacts from a 2,890-foot tunnel and 1,880 feet of dual bridges is not sufficiently detailed in Section 4.11 and EPA believes it to be inadequate. There is no description of how long a 'temporary' impact would occur in the Graham County region. It is very likely that this proposed project could take more than 5 years to complete. EPA does not believe that these impacts are 'temporary' in nature. For the purposes of identifying the intensity of the construction impacts, EPA estimates 200 two-way truck trips per day for just waste materials. At this rate, it would take 1,800 days (i.e., 4.9 years! Not including weekends, holidays or days of inclement weather) to haul off all of the waste materials. This assumes a 90% 'reusable' rate of the total estimated 29,000,000 cubic yards. This cursory analysis does not include all the other construction equipment and vehicles that would be needed for most of this duration. EPA does not believe from other western North Carolina mountain projects that a 90% 'reuse' rate of waste materials is realistic.

The SDFEIS provides an analysis of available sites for waste disposal. Some of the 'viable' sites shown in Exhibits 4.11.1 and 4.11.2 are 'on top of' blue-line streams (e.g., Viable site #ZZ and Wolf Creek; Viable site #I and tributary to Sweetwater Creek, Viable site #II and Sweetwater Creek, etc.). The actual environmental acceptability of these 'viable' waste disposal fill sites needs to be ascertained by regulatory agencies such as the U.S. Army Corps of Engineers (USACE) and the N.C. Division of Water Quality (NCDWQ). The field investigation results identified in Table 4.11.2 should be considered preliminary and the reasons for the 'non-viability' criteria shown in Table 4.11.3 needs to be fully applied and assessed by permitting authorities to all of the 'viable' sites as well. If the estimates of 'reuse' of waste materials have been underestimated by 30% or more the total volume of potential waste sites of 8,678,990 cubic yards (Table 4.11.4) may be exceeded. EPA has substantial environmental concerns that the viable sites are in fact environmentally-sound locations for waste material disposal and that the 90% 'reuse' rate of waste materials is overly optimistic by the transportation agencies.

The Construction Impacts section of the SDFEIS is a general discussion that lacks specificity concerning traffic patterns/road closures, housing for construction workers, staging areas of heavy equipment, project sequencing, adequacy of routing over-sized loads on substandard roads (e.g., Steel girders for bridges), avoidance of environmentally sensitive areas, etc. There are very few hotels (2) located in the immediate Robbinsville area. Most other 'area' hotels are located 30 or more miles from Robbinsville. Contractors staying in the area could 'overwhelm' local services and disrupt normal 'eco-tourist' businesses. Considering the remoteness of the project study area, the actual construction impacts and detailed plans for addressing these prolonged impacts need to be fully developed for public disclosure purposes and for decision-makers.

The construction impact section does not describe the potential blasting that would be required for the 'cut faces'. The SDFEIS does not describe the actual method of tunnel excavation and blasting requirements. The discussion of construction noise impacts is not consistent with work place requirements under N.C. Department of

Labor's Division of Occupational Safety and Health or Federal standards. The SDFEIS states: "*However, considering construction noise is relatively short in duration and generally restricted to daytime hours, these impacts are not expected to be substantial*". The 'valley' and echoing effect of construction noise could be prolonged for years and very substantial. Minimally, the NCDOT and FHWA should consider the preparation a full, detailed contractor noise assessment plan and on-site noise-monitoring program for both workers and area residents.

EPA could identify only reference to acid rock formations in the SDFEIS. Section 3.7.1 does not specifically reference any geologic formations associated with acid rock. However, on Page 4-81, Section 4.11.3, Water Quality, the SDFEIS states that within the project study area there is 'some minor acidic rock formations'. EPA requests further information and analysis on this issue. Considering several other TIP projects in western North Carolina, acid rock formations are a significant environmental concern and the potential harm that exposed formations and waste materials have on trout streams and water quality. The SDFEIS lacks the test boring data or other analyses required to determine if acid rock formations are present in the project study area.

The SDFEIS does not address the most recent NCDOT initiatives for mountain areas on the control of soil erosion and sedimentation measures ('BMPs). While there is a commitment to adhere to Design Standards in Sensitive Watersheds, there is no discussion on the use of 'PAM' (Polyacrylamide), coconut fiber, absorbent wattles, or other NCDOT researched and recommended soil erosion and sediment control measures for 'mountainous projects'. Section 4.6.2 of the SDFEIS acknowledges that the undeveloped reaches of the streams in the project study area are 'virtually pristine waters'. There is also an acknowledgement that these systems too would suffer indirect and cumulative impacts from the new roadway placed along or across them, even if stretches that are not directly impacted by road construction (i.e., Piped, filled, culverted, etc.). The SDFEIS does not provide any estimate of the quantity of this indirect and cumulative impact or suggested measures to minimize this harm. Furthermore, the placement of more than 2.9 million cubic yards of waste materials within the project study area is also not addressed with specific regard to indirect and cumulative effects to water quality.

Local Drinking Water Supplies

The SDFEIS identifies that nearby local residents obtain their drinking water for local streams and tributary sources. Page 4-30 identifies that "many residents currently receive water needing no treatment from high quality natural resources uphill of their residences". Furthermore, the SDFEIS states that, "*there is a very high probability that some of the residents would experience a reduction in their supplies as a result of this project*". The SDFEIS does not provide specific impact quantification to these residences or any proposed mitigation for these project-related impacts.

Floodplain Impacts

Floodplains impacts for Alternatives X and YX are 17.3 acres and 15.1 acres, respectively. The SDFEIS states that none of the build alternatives would result in substantial encroachment to regulatory floodways and are not expected to increase the extent or level of flood risk. However, the SDFEIS also states that NCDOT will coordinate with FEMA and local authorities in the final design stage to ensure compliance with applicable floodplain management ordinances. EPA believes that considering one of the primary justifications for the geographical isolation issue is a 1994 flooding/rock slide event, the SDFEIS should have provided further detail and analysis on regulatory floodplain requirements. Miles of the 100-year floodplain along the Sweetwater Creek system are potentially going to be impacted by the proposed Alternatives X and YX (Exhibit 3.6.1). EPA does not understand how floodplain impacts can be fully and successfully addressed in final design stage after an alternative is potentially selected. The FEMA's National Flood Insurance Program is expected to expire at the end of September of 2008. Without Congressional reauthorization, many homeowners would not be able to obtain adequate flood insurance in high-risk areas. This is reasonably foreseeable issue that should have been addressed and analyzed in the SDFEIS.

Residential and Business Relocations

The NCDOT and FHWA recommended Alternative YX has 38 residential relocations and 1 business relocation. The SDFEIS (Section 4.2.4) does not provide sufficient detail on the availability of comparable replacement housing in the Graham County area. Thirty-eight (38) residential relocations is a very significant impact in the very rural area of Graham County. Some of these residents may leave the Graham County area due to the lack of affordable replacement housing. EPA does not believe that this is consistent with the primary economic development goal of the project.

National Forest Service Land and Terrestrial Forest Impacts

The SDFEIS identifies 65.0 acres of impact to National Forest Service (NFS) and impacts based upon right of way limits for Alternatives X and YX. Terrestrial forest impacts are anticipated to be 243.09 acres and 258.65 acres, respectively for Alternatives X and YX. For the recommended Alternative YX, the more than 26 acres of terrestrial forest impact per mile of new roadway is more than 25% greater than the BASELINE (Approximately 18.6 acres per mile) for a new location Western N.C. project. The impacts are also to relatively mature, 'high quality' terrestrial forests such as Rich Cove, Acid Cove and White Pine forest ecosystems.

Executive Order 13112 and Invasive (Plant) Species

The SDFEIS fails to address the requirements of E.O. 13312 on Invasive Species. Two of the 'worst' terrestrial exotic invasive plant species are located along the existing roadways, including US 74, NC 143 and US 129. Kudzu and Japanese knotweed are two

species believed to have a significant and detrimental impact on natural forest ecosystems. EPA has provided FHWA and NCDOT specific information on both of these species. The project has a potential to spread these two species even further and beyond the right-of-way. They can have a significant impact to eco-tourism interests and long-term water quality. Considering the context sensitive nature of the project study area, EPA believes that this omission or the lack of consideration of 'Best Management Practices' (BMPs) for invasive plant species is not adequate for the purposes of NEPA. The 2000 Planting Plan developed between NCDOT and USFS does not restrict the use of invasive exotic plants or address the specific use of native plants (Pages 4-78 and 4-79). Most roadside grass mixes are not truly native or 'indigenous' plant species. One of the most common steep slope species planted along right-of-ways, including other portions of US 74, is invasive exotic species of *Lespedeza*. These species are also considered by resource agencies to be a 'significant threat species'.

Migratory Bird Treaty Act

Construction activities, such as clearing and grubbing for roadways in nesting areas and during nesting season can constitute a "taking" under the Migratory Bird Treaty Act (MBTA). The SDFEIS does not address the MBTA requirements. The SDFEIS does include the identification of potential areas within NFS lands that may include nesting habitat for the Cerulean warbler (*Dendroica cerulean*). The SDFEIS does not address the other terrestrial forested areas that may be suitable nesting habitat for this avian Federal Species of Concern (FSC). Table 3.7.8 of the SDFEIS includes more than 40 species of migratory birds that are observed or frequently observed in the project study area. The U.S. Fish and Wildlife Service (FWS) should be consulted with to determine appropriate avoidance and minimization measures. The primary avoidance and minimization technique is to limit clearing and grubbing and other construction activities during the active nesting season. Clearing and grubbing of natural habitats should be minimized to such areas essential for proper safety measures and necessary roadway and tunnel construction. FWS can provide specific information on nesting seasons for protected migratory birds.

Endangered Species Act

EPA defers to the U.S. Fish and Wildlife (FWS) on specific comments and issues regarding potentially impacted threatened and endangered species. However, EPA notes the environmental commitment and construction moratorium for the endangered Indiana bat (*Myotis sodalis*). This moratorium states: "*The clearing of trees will begin no earlier than October 15th and will be completed by the beginning of the Indiana bat roosting season on April 15th.*" This obviously restricts clearing and grubbing to fall and winter months and will most likely add years to the construction duration for the project. The winter months also represent the most extreme and dangerous driving conditions in the mountains with snow and ice.

Prime, Unique and State and Locally Important Farmlands Impacts

Alternatives X and YX have approximately 105 acres and 86 acres of impact to prime, unique and State and locally important farmlands ("prime farmlands"). Appendix A.3 includes AD-1006 forms completed by the Natural Resources Conservation Service (NRCS) in September of 1998. The Farmland Conversion Impact Rating form is now almost 10 years old and the assessment should be re-confirmed with NRCS. The values assigned to the X and Y corridors are below the threshold for being considered prime farmland (i.e., 140 and 132 points out of a possible total of 260 points). Statewide and locally important farmlands were found in the Alternative X and XY corridors (i.e., 43 acres identified on Page 4-28). EPA cannot ascertain how these farmlands were identified as such and what criteria were employed for their identification (e.g., NC Department Agriculture and Consumer Services 'Century Farms'). The discussion on Page S-7 regarding Farmlands is confusing: "*The actual impacts to farmlands based on construction limits would be less than the total amount of farmland within the proposed right-of-way*". The impacts to farmlands (i.e., Land use conversion) are based upon the right-of-way width and not on construction limit width. Furthermore, the corridors assessed by NRCS do not rank the Alternatives X and YX as being impacts to 'prime farmland' as defined under the Farmland Protection Policy Act (FPPA) of 1981. EPA recommends that this information be re-verified with NRCS and NCDA&CS and adequately analyzed in a future NEPA document.

Appalachian Trail Impacts

EPA has reviewed Section 4.3.5 of the SDFEIS regarding Section 4(f) and Section 6(f) resources, including the Appalachian Trial, which is a Section 4(f) resource. EPA defers to Interior on this determination, but based in the information available does not believe that there will be no direct operational or construction-related impacts to the Appalachian Trial. The construction of the 2,980-foot tunnel beneath the trail will obviously impact its potential use. Rock blasting, tunneling construction and waste disposal beneath the trail, which could take years, will impair its 'constructive use' during the construction period from vibrations, noise, dust and air pollutants from heavy equipment and trucks. While it may not be potentially a direct visual impact as discussed in the SDFEIS, this section of the document does not include the actual direct impacts that are more than 'temporary'. EPA believes that the construction impacts of the tunnel need be furthered analyzed in the final document. The following statement needs to be further explained: "*Regardless of whether unmitigated visual impacts would or would not "substantially diminish" features or attributes of the Appalachian Trail, with the implementation of the USFS mitigation measure to relocate the power distribution line across the Appalachian Trail, the proposed project would not substantially diminish features or attributes of the Appalachian Trial*".

Community Facilities, Parks and Recreation Impacts

The SDFEIS identifies that the community soccer fields at the Graham County Recreational Park would be impacted by either Alternative X or XY (Page S-7). Page 4-7 of the SDFEIS states that the Graham County Recreational Park (GCRP), a Section 6(f) resource, would not be affected by any of the build alternatives, but that Alternatives X

and XY would impact the community soccer fields located immediately west of the GCRP. The SDFEIS does not indicate if the community soccer fields are part of the Graham County Recreational Park. Exhibit 3.4.1 does not provide clarification to this issue. Under the impact summary table, 1 Park is listed as being impacted by Alternatives X and XY. NCDOT and FHWA should clarify this potential community impact issue.

Noise Receptor Impacts and Abatement

The SDFEIS identifies that there will be 18 and 17 noise receptors impacted by Alternatives X and YX. For Alternative X, 5 receptors are expected to have substantial noise increases and for Alternative YX, 8 receptors are expected to have substantial noise increases. Because of the rural nature of the project study area with rugged terrain and relatively isolated receivers, noise walls were not considered feasible for this project. Other forms of noise abatement such as earthen berms were also not considered feasible for this project. Thus, no noise abatement is being considered even for residential receptors (i.e., 8 receptors for the Recommended Alternative) that will experience substantial noise increases under FHWA NAC.

Mobile Source Air Toxics (MSATs)

The SDFFEIS includes information on MSATs, including Pages 4-23 to 4-25 and Appendix C.4. The conclusion based upon a qualitative assessment of MSAT emissions relative to the proposed project and acknowledges that the build alternatives may result in increased exposure to MSAT emissions at certain locations. Furthermore, the concentrations and duration of exposures and thereby potential health effects from these emissions cannot be estimated. Appendix C.4 is FHWA's Qualitative Impact Analysis for MSATs based on the 2006 Interim Guidance. The MSAT analysis is not project specific and does not include the identification of any potential sensitive receptors in the project study area. The SDFEIS states that there will be increased exposure to MSAT emissions at certain locations, but does not indicate where these locations might be or what the level of increase in emissions might be. This analysis is not adequate for the purposes of determining whether there is a substantial impact to sensitive receptors from MSAT emissions. Considering the 'geographical isolation' of the project area and that most MSATs are heavier than air, there is a greater potential for MSAT emissions to become 'trapped' along low-lying areas near the roadway. The SDFEIS did not evaluate MSAT emissions in the context of the potentially huge increase in diesel exhaust (DE) emissions from truck traffic and heavy equipment during years of construction.

Indirect and Cumulative Effects (ICE)

The SDFEIS includes information on ICE for the entire project, including the "A" segment. This is highly inconsistent with the other portions of the SDFEIS that excludes alternatives and potential direct impacts for the 'missing link' ("A" Segment). CEQ regulations require the lead agency to 'rigorously explore and objectively evaluate all reasonable alternatives' (40 CFR Section 1502.14). There are no reasonable alternatives

being proposed in the SDFEIS for the "A" Segment between Robbinsville and Andrews, N.C. Notwithstanding the definitions of indirect effects included in 40 CFR Section 1508.8, and cumulative impacts included in 40 CFR Section 1508.7 (Page 4-56), the "A" Segment was not analyzed in the SDFEIS. It is not 'technically defensible' to include ICE for a segment that was not analyzed in the NEPA document.

EPA does not believe that the ICE general methodology is accurate or reasonable. The assumption that no other project related changes to US 74, US 129, NC 143 or NC 28 under a "No-build Scenario" is realistic. This is highlighted by the safety analysis provided in the SDFEIS where a significant number of accidents are occurring on these other roadways and the construction of a new 10-mile segment will not fully address these safety issues. Through traffic from Bryson City to Andrews along existing US 74 is expected to continue even with the new 10-mile roadway segment. Some of the highest accident rates occurred in the Lower Nantahala Gorge area along US 74.

The SDFEIS ICE analysis has developed projected populations under various scenarios. There are no direct studies cited that support the population increase forecasts under the different scenarios. The land use section on Page 4-60 states that the B&C Scenario would change the land use characteristics along the project corridor, particularly between Robbinsville and Stecoah. Further, the proposed project would spur primary growth within Robbinsville, extending south along US 129. US 129, a two-lane undivided facility, is considered by the transportation agencies to be substandard. The SDFEIS does not provide a detailed rationale of how this substandard roadway would not deteriorate further by building the B&C Segments. The ICE analysis does not include a detailed analysis as to the long-term water quality impacts from this projected development and growth along the new project corridor. The ICE does not indicate the specific water, sewer and public utilities demand that would be required under the B&C Scenario. The issue of supporting infrastructure for the 'economic development' component of the proposed project has not been adequately addressed. There is no discussion as to what 'incremental measures' would be entailed and how local officials could obtain funding or financing for these future 'expanded' services. As with other rural mountain communities that lacked comprehensive land use planning and the financial means to address future growth along a highway corridor, (e.g., Burnsville and Micaville) sprawl development can lead to significant environmental damage to sensitive resources. Numerous 'illegal' or 'grandfathered' septic disposal systems along narrow mountain valleys can lead to discharges of pollution into nearby streams and rivers that seriously degrades water quality. Rural wastewater treatment plants also have potential maintenance and compliance issues.

EPA does not agree with the 'quality of life' discussion on Page 4-61. The 'preliminary analysis of 2000 Census data for Graham County suggests that workers are moving out of the project study area to reduce commute times'. An 'origin/destination' study was not performed for this project, nor did the transportation agencies conduct a meaningful local commuter survey to determine the primary cause for reduced population growth in Graham County. This assumption is not supported by actual data and the population in Graham County is project to increase modestly at 4 to 8% per decade. The

actual data supports that the area is growing, but slower than other urbanized areas of the State. The generalized discussion of 'quality of life' and that 'some residents' are content and others are not content with the current conditions is not supported by actual data or census surveys. The lack of specialized medical care in the project study area could be addressed by local and State government incentives for these particular services. Shortening the 70-mile drive to Asheville by 'minutes' with the construction of a new 10-mile 4-lane segment is not a reasonable approach to this local problem.

Section 4.7.2 of the SDFEIS addresses Economic Impacts of the US 74 Relocation project. The assumptions provided in this analysis are not supported by other actual Appalachia roadway projects. Furthermore, the B&C Segment 'dead-ends' at US 29 in Robbinsville. The entire analysis is based upon construction jobs and a 'dollar alue of first, second and third round goods and services generated'. EPA would characterize this 'short-term' and 'term' economic analysis as 'asphalt economics'. Once the asphalt is laid and the roadway, tunnel and bridges finished, the construction and support sector jobs and Government funding disappear. This is not a 'sustainable' economic development plan and the 'substantial boost' to the local economy will not go to the primary eco-tourism sector but to a small number of regional contractors and businesses. This has been shown to be 'boom' and 'bust' economic stimulus. The discussion regarding manufacturers is vague and non-descriptive. However, this section of the SDFEIS (Page 4-62) presents the only potentially accurate description that the "*construction of the project would be enormous multi-year effort*". Table 4.7.2 provides a summary of ICE. The avoidance and minimization and mitigation of the adverse indirect and cumulative environmental effects to habitat fragmentation, ecosystem disruption, natural processes, air quality, water quality, quality of life, community cohesion/stability, etc. are not fully addressed or in some cases inaccurate. Without significant coordination with local officials and detailed comprehensive land use plan considerations included in a revised NEPA document, the ICE, as well as the direct impacts, from the proposed project are environmentally unacceptable.

Irreversible and Irretrievable Commitments of Resources

EPA's has several environmental concerns regarding the irreversible and irretrievable commitments of resources as outlined below:

- The Stecoah Gap Tunnel must be manned 24 hours a day, 7 days of the week, year-round 'forever' (Page 2-20) to conform to NFPA Section 502 requirements. The SDFEIS includes a breakdown of personnel, including a tunnel manager, secretary, purchasing/payroll, supervisor, control operator, emergency response, and 8 different job titles for the maintenance group. There is a list of 9 required vehicles shown on Page 2-24 that would be necessary to support tunnel operations. There is no breakdown or inclusion of costs for the operation and maintenance of the tunnel. Based upon the development of a required security plan, additional security personnel may also be permanently needed. The

potential long-term costs and energy to support and maintain this tunnel are not adequately detailed in the SDFEIS.

- The SDFEIS references that the 'long-bridge' over Stecoah Creek and its tributaries will require the use of an anti-icing system to minimize the potential for weather-related accidents. The system currently under consideration includes the use of a potassium acetate (KA) anti-icing solution. There is a discussion on Page 2-29 concerning the relative non-toxicity of KA and that the transport of the chemical compound is fairly close to the roadway (i.e., Typically does not exceed 10 meters). The SDFEIS does not include the long-term cost of this de-icing system (The new I-26 bridge in Madison County is using this KA de-icing solution.) One of the main disadvantages of the KA system is that is potentially much more expensive than chloride-based anti-icing agents. The research cited indicates that microorganisms can utilize the potassium and acetate ions as a nutrient. Excessive nutrients are still considered potential pollutants under the Clean Water Act. Unfortunately, the long-term application and run-off of this compound could potentially create 'algal growth' in clear mountain trout streams. While EPA generally prefers the KA compound to chloride-based agents, NCDOT and FHWA should have also explored and discussed 'solar roadway heating systems' which are passive and will not create long-term degradation to water quality.

- The A-9 B/C project has a tremendous potential to generate acid rock and to expose cut slopes that have acid rock formations. The SDFEIS does not provided sufficient information to determine if long-term treatment (typically NCDOT proposes stormwater capture and lime neutralization) of these exposed surfaces will be cost-effective or achievable. The treatment of potentially tens of thousands of square feet of exposed acid rock surface near trout streams could require permanent and prolonged treatment measures. This issue is not adequately considered in the SDFEIS and could result in additional irreversible and irretrievable commitments of resources.